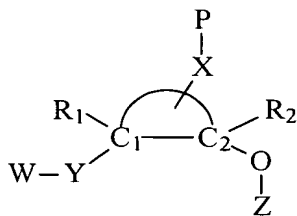


-- 80. (New) A solid support for the solid phase synthesis of polynucleotides comprising a cyclic compound of the formula:



wherein Z is hydrogen or a protecting group;

Y is oxygen, sulphur, or nitrogen;

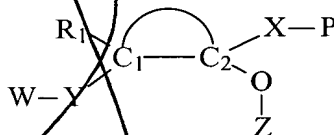
W is acyl;

each of R₁ and R₂ is independently an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

81. (New) A solid support for the solid phase synthesis of polynucleotides comprising a cyclic compound of the formula:



wherein Z is hydrogen or a protecting group;

Y is oxygen, sulfur, or nitrogen;

W is acyl;

R₁ is an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

82. (New) The solid support of claim 80 or 81 wherein C₁ and C₂ form part of a heterocycle.

83. (New) The solid support of claim 82 wherein the heterocycle comprises 4 or 5 carbons atoms and one oxygen, sulfur, or nitrogen atom.

84. (New) The solid support of claim 83 wherein C₁ and C₂ respectively form positions 2' and 3' of a ribose ring and Y is the 2' oxygen of said ribose ring.

85. (New) The solid support of claim 80 or 81 wherein Z is hydrogen.

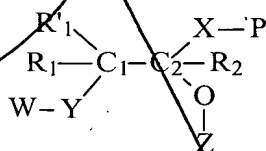
86. (New) The solid support of claim 80 or 81 wherein Y is an oxygen atom and W is -C(O)CH₃.

87. (New) The solid support of claim 80 or 81 wherein the atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support is selected from the group consisting of hydrogen, alkyl, and halogenated derivatives of alkyl.

88. (New) The solid support of claim 87 wherein alkyl is selected from the group consisting of methyl, ethyl, n-propyl, iso-propyl, n-butyl, iso-butyl, and tert-butyl.

89. (New) The solid support of claim 80 or 81 wherein acyl is selected from the group consisting of acetyl, propanoyl, and butanoyl.

90. (New) A solid support for the solid phase synthesis of polynucleotides comprising a compound of the formula:



wherein Z is hydrogen or a protecting group;

Y is oxygen, sulphur, or nitrogen;

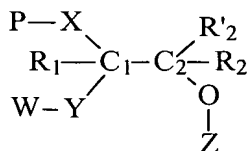
W is acyl;

each of R₁, R₂, and R'₂ is independently an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

91. (New) A solid support for the solid phase synthesis of polynucleotides comprising a compound of the formula:



wherein Z is hydrogen or a protecting group;

Y is oxygen, sulphur, or nitrogen;

W is acyl;

each of R₁, R₂, and R'₂ is independently an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

92. (New) The solid support of claim 90 or 91 wherein Z is hydrogen.

93. (New) The solid support of claim 90 or 91 wherein Y is an oxygen atom and W is -C(O)CH₃.

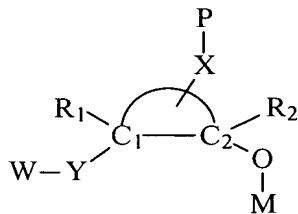
94. (New) The solid support of claim 90 or 91 wherein the atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support is selected from the group consisting of hydrogen, alkyl, and halogenated derivatives of alkyl.

95. (New) The solid support of claim 94 wherein alkyl is selected from the group consisting of methyl, ethyl, n-propyl, iso-propyl, n-butyl, iso-butyl, and tert-butyl.

96. (New) The solid support of claim 90 or 91 wherein acyl is selected from the group consisting of acetyl, propanoyl, and butanoyl.

Ex
contd

97. (New) A solid support for the solid phase synthesis of polynucleotides comprising a cyclic compound of the formula:



wherein M is a nucleotide bound to the cyclic compound via a 3' or 5' phosphate, phosphite, or phosphothioate group and optionally bound to at least one other nucleotide;

Y is oxygen, sulfur, or nitrogen;

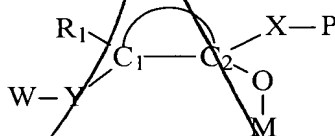
W is acyl;

each of R_1 and R_2 is independently an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

98. (New) A solid support for the solid phase synthesis of polynucleotides comprising a cyclic compound of the formula:



wherein M is a nucleotide bound to the cyclic compound via a 3' or 5' phosphate, phosphite, or phosphothioate group and optionally bound to at least one other nucleotide;

Y is oxygen, sulfur, or nitrogen;

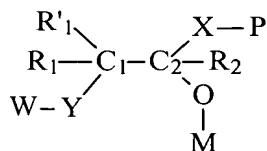
W is acyl;

R_1 is an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

99. (New) A solid support for the solid phase synthesis of polynucleotides comprising a compound of the formula:



wherein M is a nucleotide bound to the cyclic compound via a 3' or 5' phosphate, phosphite, or phosphothioate group and optionally bound to at least one other nucleotide;

Y is oxygen, sulfur, or nitrogen;

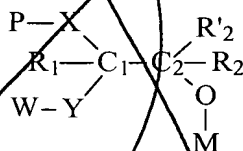
W is acyl;

each of R_1 , R_2 , and R'_1 is independently an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

100. (New) A solid support for the solid phase synthesis of polynucleotides comprising a compound of the formula:



wherein M is a nucleotide bound to the cyclic compound via a 3' or 5' phosphate, phosphite, or phosphothioate group and optionally bound to at least one other nucleotide;

Z is hydrogen or a protecting group;

Y is oxygen, sulfur, or nitrogen;

W is acyl;

each of R_1 , R_2 , and R'_2 is independently an atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support;

X is an organic spacer group; and

P is an organic or inorganic polymer.

101. (New) The solid support of one of claims 97-100 wherein the atom or chemical moiety which is inert under the conditions of polynucleotide synthesis on a solid support is selected from the group consisting of hydrogen, alkyl, and halogenated derivatives of alkyl.